

Notice of Allowability

Application No.

10/655,763

Examiner

Cuong V. Luu

Applicant(s)

NOURMOHAMADIAN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/8/2006.
2. ☒ The allowed claim(s) is/are 15-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


KAMRAN SHAH
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

Claims 15-26 are pending. Claims 1-14 have been canceled. Claim 26 has been added. Claims 15-26 have been examined. Claims 15-26 have been allowed.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with attorney Glenn Smith on 1/19/2007 and 1/24/2007.

The application has been amended as follows:

1. As per claim 15, it has been amended as:

15 (currently
Amended)

A tape storage emulation method comprising:

providing a virtual tape controller in communications with a server, a disk storage device and a tape storage device;

~~storing in the virtual tape controller a plurality of non-media command responses captured from the tape storage device;~~

~~receiving a non-media command in the virtual tape controller from the server;~~

~~sending to the server from the virtual tape controller a stored one of the non-media command responses corresponding to the received non-media command;~~

~~receiving a media command in the virtual tape controller from the server; and~~

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~~applying the media command to a virtual tape controller managed virtual tape volume configured on the disk storage device.~~

sending a plurality of common non-media commands from the virtual tape controller to the tape storage device during an initialization sequence; and

capturing at least a portion of a response of the tape storage device to the common non-media commands; and

storing the at least a portion of the response in a personality logic portion of the virtual tape controller.

2. As per claim 16, it has been amended as:

16 (Currently Amended) The tape storage emulation method according to claim 15 further comprising:

~~sending a plurality of common non-media commands from the virtual tape controller to the tape storage device during an initialization sequence;~~

~~capturing at least a portion of the response of the tape storage device to the common non-media commands for storage in a personality logic portion of the virtual tape controller.~~

receiving a non-media command in the virtual tape controller from the server;

sending to the server from the virtual tape controller a stored one of the non-media command responses corresponding to the received non-media command;

receiving a media command in the virtual tape controller from the server; and

applying the media command to a virtual tape controller managed virtual tape volume configured on the disk storage device.

3. As per claim 22, it has been amended as:

22 (Currently Amended) A tape storage emulation method comprising:

providing a virtual tape controller having personality logic, the virtual tape controller in communications with a server and a disk storage device;

attaching a tape storage device to the virtual tape controller so as to establish communications between the virtual tape controller and the tape storage device;

sending a plurality of common non-media commands from the virtual tape controller to the tape storage device so as to obtain responses from the tape storage device; and

storing the responses in the personality logic;

~~receiving a non-media command from the server; and~~

~~communicating to the server from the personality logic a response corresponding to the non-media command so that the virtual tape controller appears to the server as the tape storage device.~~

4. Claim 26 has been added as:

26 new, The tape storage emulation method according to claim 22 further comprising:

receiving a non-media command from the server; and

communicating to the server from the personality logic a response corresponding to the non-media command so that the virtual tape controller appears to the server as the tape storage device.

Allowable Subject Matter

Claims 15-26 are allowed. The following is an examiner's statement of reasons for allowance:

5. As per claim 15, the closest prior art teaches a tape storage emulation method comprising:

providing a virtual tape controller in communications with a server, a disk storage device and a tape storage device;

sending a plurality of common non-media commands from the virtual tape controller to the tape storage device during an initialization sequence;

capturing at least a portion of a response of the tape storage device to the common non-media commands;

a personality logic in the virtual controller;

but does not teach:

storing the at least a portion of the response in a personality logic portion of the virtual tape controller

as recited by the claimed invention.

6. As per claim 18, the closest prior art teaches a tape storage emulator comprising:

a server interface that communicates media commands and non-media commands from a server;

a virtual tape manager in communications with the server interface so as to provide the server access to virtual tape volumes on a random access storage device in response to the media commands;

a personality logic in communications with the server interface so as to provide the server with non-media command responses to the non-media commands; and

a personality table in the personality logic

but does not teach storing the non-media command responses, that are captured from a sequential access storage device in communications with the personality logic, in a personality table.

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7. As per claim 22, the closest prior art teaches a tape storage emulation method comprising:
- providing a virtual tape controller having personality logic, the virtual tape controller in communications with a server and a disk storage device;
 - attaching a tape storage device to the virtual tape controller so as to establish communications between the virtual tape controller and the tape storage device;
 - sending a plurality of common non-media commands from the virtual tape controller to the tape storage device so as to obtain responses from the tape storage device; and
 - but does not teach storing the responses in the personality logic as recited by the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cuong V. Luu whose telephone number is 571-272-8572. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah, can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. An inquiry of a


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general nature or relating to the status of this application should be directed to the TC2100

Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CVL


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